

MOHAMED ABUBAKER

SOFTWARE ENGINEER

Dubai, United Arab Emirates (Ready to Relocate), mohammedaliedriis@gmail.com, [+\(971\)507901972](tel:+971507901972),

Socials: [Github](#), [Linkedin](#), [Portfolio](#)

PROFESSIONAL SUMMARY

Full-stack Software Engineer with 3+ years of experience in Python, Flutter, SQL, AI/ML, IoT. Proven track record in designing scalable architectures, integrating ML models into production, and developing secure REST APIs for healthcare, robotics, and automation projects.

Skilled in microservices, real-time systems, DevOps (Docker, CI/CD), and Agile/Scrum methodologies. Adept at cross-functional collaboration to deliver innovative, high-impact solutions

EXPERIENCE

FREELANCE SOFTWARE DEVELOPER

Dec 2024 – May 2025

Self-Employed, DUBAI, UAE

- Delivered 4+ cross-platform applications using Flutter, PyQt6, and JavaScript, improving product engagement by 25% through enhanced UI/UX and optimized performance.
- Led the development of secure backend APIs and ETL automation pipelines for large-scale data cleaning, transformation, and business logic processing, reducing manual processing time by 40%.
- Incorporated advanced machine learning models via Google Gemini APIs and custom training pipelines, enabling real-time personalization and increasing user session duration by 35%.

SOFTWARE ENGINEER

Nov 2024 – Apr 2025

CARETTA ROBOTICS, FAMAGUSTA, CYPRUS

- Reduced ROV command latency by 15% via real-time control system optimization.
- Consolidated sensor streams from 5+ sources for accurate 3D environmental mapping.
- Improved object detection precision by 12% through MobileNet model retraining.

SOFTWARE ENGINEER INTERN

Jun 2024 – Oct 2024

CARETTA ROBOTICS, FAMAGUSTA, CYPRUS

- Processed 26,000+ sensor entries, increasing ML model accuracy by 20%.
- Enhanced 3D SLAM system with multi-sensor fusion for better navigation.
- Optimized computer vision pipelines for faster object classification and environmental awareness.

SOFTWARE DEVELOPER FREELANCER

Apr 2023 – Jun 2024

Self-Employed, KHARTOUM, SUDAN

- Led a team of 4 to deliver mobile & automation solutions 25% faster than projected.
- Developed Flutter apps with Firebase, improving performance by 20%.

EDUCATION

Bachelor of Science in Electrical and Electronic Engineering (Honour Student)

Jan 2025

Eastern Mediterranean University, Famagusta, North Cyprus ([EMU](#)) (Transferred from University of Khartoum)

- Majored in Data Science, Industrial Automation, Embedded Systems, and Image Processing.

PROJECTS

Care Bridge

May 2025 – Aug 2025

Tech Stack: Dart, Flutter, Supabase, FCM, APN, FastAPI.

- Drove the creation of a responsive cross-platform telehealth mobile application to connect doctors in the Gulf region with patients in Sudan targeting to improve the health sector by 20%.
- Crafted a modular system to manage 100+ weekly appointments, enable real-time live chat and video calls, and support a custom EHR system compliant with industry standards, resulting in a 30% increase in operational efficiency.
- Delivered user authentication and role-based access, for 3 types of users for ease of access and shared modules .

HiredYet

Apr 2025 – May 2025

Tech Stack: Next.js, Tailwind CSS, Google Gemini API.

- Created a responsive job listing platform, reducing page load times by 30%.
- Integrated the Google Gemini API to auto-generate tailored CVs and cover letters, saving users 70% of manual editing time.

- Tech Stack: Python, PyQt6, Pandas.
- Engineered a desktop solution to automate patient data integration across multiple departments and saving 2 hours a day for the users.
 - Architected a modular ETL pipeline that processed over 5,000+ Excel/ODS records, automating data transformation and normalization with 98% accuracy using intelligent record reconciliation logic.
 - Prepared the system for API integration with hospital databases, reducing future migration time by 40% and enabling scalable transition to a cloud-based architecture.

Pathfinder

Mar 2025 – Apr 2025

- Tech Stack: Python, SQL, Dart, Flutter, Postgres.
- Co-founded a real-time fleet tracking system supporting 50+ concurrent vehicles, Built with a mobile frontend and microservices backend.
 - Designed a scalable PostgreSQL schema that reduced query response times by 40%.
 - Achieved 99.8% uptime in simulated real-world fleet operation tests over a 1-week stress period.
 - Managed the relationship with our partner and made sure that we met the agreed KPIs.

Smart Indirect Evaporative Cooling System (Markoni)

Dec 2024 – Feb 2025

- Tech Stack: C++, MQTT, Flutter, Vue, Firebase.
- Developed an IoT cooling system using ESP32 and DHT sensors, reducing temperature by up to 10°C.
 - Crafted an intuitive Flutter and web-based control panel, cutting manual interaction by 80% over 30-day field testing.
 - Achieved 25% lower power consumption vs traditional cooling using indirect evaporative methods.

Real-time Bus Tracking System (Graduation Project)

Apr 2024– Dec 2024

- Tech Stack: Python, SQL, Dart, Flutter, Postgres.
- Implemented a Flutter app to track 5+ bus routes in real-time using Firebase, GPS, and Google Maps API, achieving over 95%+ accuracy.
 - Deployed an edge-based YOLOv5n object detection model on Raspberry Pi, optimizing onboard inference (25% faster) and achieving 80% class precision.

SKILLS

- Programming:** Python, Dart, C++, Java, SQL.
- Frameworks & Tools:** Flutter, FastAPI, Flask, Spring Boot, PyQt6, Tailwind CSS.
- AI/ML & Data:** Pandas, NumPy, Scikit-learn, TensorFlow, YOLOv5, OpenCV, Google Gemini API.
- Backend & Cloud:** AWS, Supabase, Firebase, PostgreSQL, Docker, RESTful APIs, CI/CD (GitHub Actions)
- IoT & Embedded:** Raspberry Pi, Arduino, ESP32, MQTT, PLC Programming.
- Other Skills:** Microservices, Agile, Scrum, API Security, ETL Pipelines, Real-Time Systems.
- Languages:** Arabic (Native), English (Professional).

AWARDS, INVOLVEMENT AND CERTIFICATIONS

CERTIFICATIONS

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| •Best Graduation Design Project of Fall 2024-2025 semester, Electrical and Electronic Engineering, Eastern Mediterranean University. | 2025 |
| •High Honour Student of Fall 2024-2025, Spring 2023-2024 and Fall 2023-2024 semesters, Electrical and Electronic Engineering, Eastern Mediterranean University. | 2025
2024 |
| •IEEEEXTREME 18.0 competitor ranked 2nd in the country and 597th in the region, IEEEExtreme , IEEE. | 2024 |
| •Chairman of the Student's Society of Electrical and Electronic Engineering, Electrical and Electronic Engineering, University of Khartoum. | 2023 |
| •Vice President of Public Relations Office, Steering Engineering Association, University of Khartoum. | 2022 |
| •Flutter Development Course, Google Developer Student Club, University of Khartoum branch, Google. | 2022 |